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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,232	09/12/2003	Martin Frederick Arthur Hudson	1324.036A	9348

23405 7590 02/27/2004

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ALBANY, NY 12203

EXAMINER
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MAYO III, WILLIAM H

ART UNIT	PAPER NUMBER
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2831

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/661,232

Applicant(s)

HUDSON, MARTIN FREDERICK  
ARTHUR

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 June 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5</u> . | 6) <input type="checkbox"/> Other: ____.  |

## DETAILED ACTION

### *Priority*

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed in National Application No. WO/GB00/04992, filed on December 22, 2000.

2. Applicant has not complied with one or more conditions for receiving the benefit of an earlier filing date under 35 U.S.C. 120 as follows:

3. If applicant desires priority under 35 U.S.C. 120 based upon a previously filed application, specific reference to the earlier filed application must be made in the instant application. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications. This should appear as the first sentence of the specification following the title, preferably as a separate paragraph unless it appears in an application data sheet. *The status of nonprovisional parent application(s) (whether patented or abandoned) should also be included. If a parent application has become a patent, the expression "now Patent No. \_\_\_\_" should follow the filing date of the parent application. If a parent application has become abandoned, the expression "now abandoned" should follow the filing date of the parent application.*

If the application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the

application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A priority claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed claim for priority under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

### ***Information Disclosure Statement***

4. The information disclosure statement filed September 12, 2003 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

### ***Drawings***

5. The drawings are objected to because Figure 3 lacks the proper cross hatching, which indicates the type of materials, which may be in an invention. Specifically, the cross hatching to indicate the conductor and insulative materials are incorrect. The applicant should refer to MPEP Section 608.02 for the proper cross hatching of materials. Correction is required.

### ***Specification***

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

7. The abstract of the disclosure is objected to because throughout the specification it contains the term "comprising", which is improper language for the abstract. The applicant should replace the term with --having--. The abstract also contains misspelled words such as "metalised" and run on sentences. The applicant should correct all misspelled words and run on sentences in the abstract. Correction is required. See MPEP § 608.01(b).

8. The disclosure is objected to because of the following informalities: The specification is replete with misspelled words. The applicant should correct all instances of misspelled words. Examples are "metalised", "plasticiser", "aluminized", and summarised". The applicant should correct all instances of misspelled words. On page 11, line 4, the applicant should replace the terms "The Cable", with the terms --The cable--.

Appropriate correction is required.

### ***Claim Objections***

9. Claims 1, 18-19, and 25-27 are objected to because of the following informalities: They all contain the term "metalised", which is misspelled. The applicant should replace the term with --metalized--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

10. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

11. Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
12. Regarding claim 1, the phrase "optionally" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.
13. Regarding claim 10, the phrase "and/or" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.
14. Claims 2-9 and 11-27 are depended upon rejected claim 1 and therefore are rejected.

***Claim Rejections - 35 USC § 103***

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinoshita et al (Pat Num 5,597,981, herein referred to as Hinoshita) in view of Hudson (WO 98/45855). Hinoshita discloses a communications cable (Figs 1-5) adapted for high speed digital signals (Col 1, lines 5-10). Specifically, with respect to claim 1, Hinoshita discloses a cable (Fig 2) comprising a plurality of core (5) comprising a metallic conductor (1) surrounded by a close fitting sleeve of insulating material (6 & 7)

which is substantially free of halogenated polymers (Col 1, lines 54-56) and comprises a outer layer (7) of non foamed polymer (Col 9, lines 1-7) surrounding a layer of polymer (6), wherein the outer layer (7) contains a fire retardant which is substantially halogen free (Col 3, lines 1-34) surrounding the layer of polymer (6), wherein the region of insulating material (6) immediately adjacent the metallic conductor (1) contains no fire retardant metal hydroxide or carbonate filler (i.e. solid polyethylene), an outer cable sheath (3) disposed radially outwardly of and surrounding the cores (5), wherein the cable sheath (3) constitutes a fire protection layer (Col 9, lines 1-7) and being formed of an extrudable polymer containing a fire retardant material such as a metal hydroxide (Col 3, lines 1-34), wherein no additional fire protection layer is disposed between the cores (5) and the outer cable sheath (3). With respect to claim 2, Hinoshita discloses that the cable (Fig 2) is non coaxial (Fig 2). With respect to claim 3, Hinoshita discloses that the outer layer of non foamed polymer is formed from an olefin polymer, copolymer, or a polyolefin alloy (Col 3 & 4, lines 1-68 & 1-34 respectfully). With respect to claim 6, Hinoshita discloses that the cable (Fig 2) is unscreened (Fig 2). With respect to claims 8-9, Hinoshita discloses that the insulating layer (6 & 7) surrounding the metallic conductor (1) comprises a radially inner layer (6) and a radially outer non-foamed layer (7). With respect to claim 10, Hinoshita discloses that the outer non-foamed layer (7) contains a metal hydroxide (Col 3, lines 38-47). With respect to claim 11, Hinoshita discloses that the insulating materials of the core (5) may be a polyolefin such as polyethylene or polypropylene (Col 4, lines 5-8). With respect to claim 12, Hinoshita discloses that the cores (5) are arranged in the form of a plurality of twisted pairs (Fig



2). With respect to claim 13, Hinoshita discloses that the cores (5) are arranged in the form of a plurality of twisted pairs (Fig 2). With respect to claim 14, Hinoshita discloses that there are between one to thirty twisted pairs of cores (5, Fig 2).

However, Hinoshita doesn't necessarily disclose the inner layer of insulating material being foamed (claims 1 & 8), nor the insulating material having a permittivity of less than 3 (claim 1), nor the maximum flame propagation distance of the cable as measured by American National Standards Institute test ANSI UL 910, is less than 152cm beyond the initial test flame (claim 4), nor the peak optical density of the smoke produced by the cable, as measured by American National Standards Institute test ANSI UL 910 is less than 0.5 and the average optical density of the smoke is 0.15 or less (claim 5), nor the cable being screened (claim 7), nor the insulating material comprising an intermediate foamed layer (claim 9), nor the twisted pairs being four twisted pairs (claim 15), nor a screening layer disposed between the cores and the outer cable sheath (claim 16), nor the core being individually wrapped in a screening tape (claim 17), nor the individually wrapped cores being surrounded by a second screening tape (claim 18), nor the screening layer being a metallized polymer film (claim 19), nor the polymer film being coated with aluminum (claim 20), nor the polymer film being polyester (claim 21), nor a drain wire being disposed between the cores and the outer cable sheath (claim 22).

Hudson teaches a fire resistant communications cable (Figs 1-4) that overcomes the problems associated with prior art cables and is substantially halogen free thereby reducing the possibility of having toxic fumes should a fire occur (Pages 4 & 5, 4<sup>th</sup> and

1<sup>st</sup> paragraphs respectively). Specifically, with respect to claims 1 & 8, Hudson teaches a cable (2, Figs 1-2) comprising plurality of cores (4) comprising an inner layer of insulating material (8') being made of a foamed material (Page 10, lines 11-16), wherein the permittivity is less than 3 (Page 5, lines 4-7). With respect to claims 4-5, Hudson teaches that the maximum flame propagation distance of the cable as measured by American National Standards Institute test ANSI UL 910, is less than 152cm beyond the initial test flame and the peak optical density of the smoke produced by the cable, as measured by American National Standards Institute test ANSI UL 910 is less than 0.5 and the average optical density of the smoke is 0.15 or less (See Table 1 on page 12). With respect to claim 7, Hudson teaches that the cable (2) comprises a screen (36, Fig 4). With respect to claim 9, Hudson teaches that the insulating material (8) comprising an intermediate foamed layer (8'') disposed between the inner non foamed layer (8') and the outer non foamed layer (8''', Page 11-16). With respect to claim 15, Hudson teaches that the twisted pairs (32) comprise four twisted pairs (Fig 4). With respect to claim 16, Hudson teaches that a screening layer (36) disposed between the cores (4) and the outer cable sheath (42). With respect to claim 17, Hudson teaches that the cores (4) are individually wrapped in a screening tape (34, Page 13, 3<sup>rd</sup> paragraph). With respect to claim 18, Hudson teaches that the individually wrapped cores (Fig 4) are surrounded by a second screening tape (36, Page 13, 3<sup>rd</sup> paragraph). With respect to claim 19, Hudson teaches that the screening layers (34 & 36) being a metallized polymer film (Page 13, 3<sup>rd</sup> paragraph). With respect to claim 20, Hudson teaches that the polymer film being coated with aluminum (Page 13, 3<sup>rd</sup> paragraph). With respect to

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claim 21, Hudson teaches that the polymer film being polyester (Page 13, 3<sup>rd</sup> paragraph). With respect to claim 22, Hudson teaches that a drain wire (38) is disposed between the cores (32) and the outer cable sheath (42).

With respect to claims 1, 4-5, 7-9, and 15-22, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable configuration of Hinoshita to comprise the cable configuration as taught by Hudson because Hudson teaches that such a configuration that overcomes the problems associated with prior art cables and is substantially halogen free thereby reducing the possibility of having toxic fumes should a fire occur (Pages 4 & 5, 4<sup>th</sup> and 1<sup>st</sup> paragraphs respectively).

17. Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinoshita (Pat Num 5,597,981) in view of Hudson (WO 98/45855, herein referred to as modified Hinoshita) as applied to claim 1 above, further in view of Prudhon (Pat Num 5,952,615). Modified Hinoshita discloses a communications cable (Figs 1-5) adapted for high speed digital signals (Col 1, lines 5-10).

However, modified Hinoshita doesn't necessarily disclose the individual cores being separated by an axially extending separator (claim 23), nor the separator being a polymeric material (claim 24), nor the separator being surrounded by a metallized screening layer (claim 25), nor the separator being metallized (claim 26), nor the separator being surrounded by a metallized screening layer which is in contact with the separator such that each twisted pair is enclosed by a metallized screen (claim 27).

Prudhon teaches a communications cable (Figs 1-3) comprising a plurality of pairs of electrical conductors and a separator separating the pairs of electrical conductors, thereby improving impedance and reducing the possibility of cross talk (Col 4, lines 15-25). Specifically, with respect to claim 23, Prudhon teaches a cable (Fig 3) comprising a plurality of twisted pairs (1-4) wherein the twisted pair cores (1-4) are separated by an axially extending separator (31). With respect to claim 24, Prudhon teaches that the separator (31) is made of a polymeric material (Col 3, lines 9-12). With respect to claim 25, Prudhon teaches that the separator (31) being surrounded by a metallized screening layer (32). With respect to claim 26, Prudhon teaches that the separator (31) may be a metallized polymer (Col 3, lines 9-12). With respect to claim 27, Prudhon teaches that the separator (31) is surrounded by a metallized screening layer (13) which is in contact with the separator (31) such that each twisted pair (1-4) is enclosed by a metallized screen (13).

With respect to claims 23-27, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the cable configuration of modified Hinoshita to comprise the separator configuration as taught by Prudhon because Prudhon teaches that such a configuration improves the impedance and reduces the possibility of cross talk between twisted pairs (Col 4, lines 15-25).

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. They are Gareis et al (Pat Num 6,222,130), Despard et al (Pat

Num 6,310,295), Gareis et al (Pat Num 6,297,454), all of which disclose communications cable having separators, Yin et al (Pat Num 5,654,095), Mennone et al US 2002/0117325 A1, Arroyo et al (Pat Num 4,284,842), Kikuchi et al (Pat Num 6,248,446), Lania et al (Pat Num 3,914,495), La Gase et al (Pat Num 3,823,255), Pederson (Pat Num 4,150,249), Arroyo et al (Pat Num 4,605,818), Yoshida et al (Pat Num 5,216,202), Mottine, Jr et al (Pat Num 6,392,152), Wessels (Pat Num 5,462,803), Clark et al (Pat Num 6,248,954), and Hazy et al (Pat Num 6,462,268), all of which disclose fire retardant communications cable.

### ***Communication***

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



WHM III  
February 2, 2003

William H. Mayo III  
Primary Examiner  
Art Unit 2831